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by strongly raised nervures, faintly pubescent, mostly dark brown to nearly black in color. Antennae brown, the apical segment somewhat darkened. Body beneath brown, usually tinged with ferrugineous. Legs brown, the tips of femora and bases of tibiae, and the tarsi dark. Rostrum extending slightly beyond the meso-metasternal suture. Rostral sulcus open behind.

Akin to *T. scrupolosa* Stal, but readily separated from it by the longer and much less pilose antennae; the pubescence in the discoidal area is almost entirely wanting. Twelve specimens. Florida: Crescent City, September 7, 1898, Otto Heidemann Collector. Jamaica: Mandeville, Kingston, January to April, 1908, E. P. Van Duzee Collector. *Type* in my collection; *paratypes* in the collections of E. P. Van Duzee, Cornell University (late Heidemann Collection) and of the writer.

THE NATIVE HOST-PLANT OF THE CAMPHOR THRIPS.

(*Cryptothrips floridensis* Watson.)*

The camphor thrips was first collected by Mr. W. O. Richtman, on the camphor farm at Satsuma in November, 1912 (see An. Rep. Fla. Ag. Exp. Sta. 1913, p. lxvii). Subsequent search thruout Florida revealed its presence in many places, but by no means in all those investigated. This discontinuous distribution and our failure to find the insect on any plant except camphor, which is an introduced plant, finally led us to the opinion that it is an introduced pest, perhaps brought to us on camphor. This opinion was strengthened by the receipt of a single poor specimen of an adult and several larvae of apparently this species collected on camphor in Ceylon (An. Rep. Fla. Ag. Exp. Sta. 1915, p. lxxi).

The first evidence that pointed to an opposite conclusion was gathered on a visit to the DuPont Camphor Farm at Waller last July. The insect was not noticed in this plantation until spring of this year and one of the first centers of infestation was near a "bayhead" in an out-of-the-way section of the farm. This pointed to the bayhead as a possible source of the insect. Accordingly the native vegetation in the bayhead was subjected to a vigorous sweeping and a single adult of the camphor thrips was captured. Altho this pointed strongly to the bayhead as the home of the insect, there was a possibility that the thrips caught there had strayed into the bayhead from neighboring camphor. If the insect was native to the bayhead what was its foodplant there? Those of you who are familiar with our bayheads know that the vegetation there is a bewildering mixture of a large number of species of shrubs, herbs and grasses with no apparent order or zonation. It was therefore difficult indeed to determine the exact host plant. Because it belongs to the same family as camphor we naturally suspected the bay itself. There are two entirely unrelated genera of plants that are commonly called "bays" in Florida. One is a certain small species of *Magnolia* of the magnolia family and the other is *Persea,* or *Tamala,* of the laurel family, the family to which camphor belongs. It was, of course, the latter only that was suspected of possibly being the host plant of the camphor thrips. However, a thorough beating of this plant at Waller failed to reveal the presence of the thrips. A fortnight's vacation spent at Daytona Beach afforded an opportunity to study the bay there, *Tamala littoralis* being one of the most abundant trees on the island. The very first tree investigated yielded many of the camphor thrips, both adults and larvae. Further investigation showed that the thrips was generally distributed thruout the island. It was found on trees miles from any camphor and in isolated places to which the opportunities of catching a ride must be few. On only a few trees, however, was the infestation heavy. It has since been found on the same species of bay at Orlando.

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*Paper read before the Florida Entomological Society Sept. 29, 1919.

Following the discovery of this thrips on bays and its identification on structural grounds as *Cryptothrips floridensis,* live thrips were taken to the laboratory and transferred to camphor. Vice versa thrips collected from camphor were transferred to bay. In both cases the insects fed with avidity on the new host. They seemed to have no choice whatever as between camphor and bay, provided the leaves or twigs were of an equal age. We have not as yet had an opportunity to study their behavior in the field where bays and comphor are growing side by side.

There can then, it would seem, be no doubt but that the native bays of the genus Tamala are the native hosts of the camphor thrips which is a native insect that has spread to the camphor wherever opportunity offered. Its uneven distribution over the state and its absence from many camphor hedges and trees is to be explained by the remoteness of the uninfested trees from bays and lack of transportation facilities.

These developments lead to a reexamination of the specimen from Ceylon, for if the insect is a native of Florida, feeding on the wild bays, it would seem unlikely that identically the same species should be found in Ceylon. Altho the Ceylon specimen is undoubtedly a *Cryptothrips* and remarkably similar in size and color to *C. floridensis,* a close examination reveals differences in the shape of the thorax and the antennal segments. The Ceylon specimen is probably a distinct but closely related species.

The injury inflicted on bay is similar to that on camphor but less severe. There is the same destruction of the new terminal growth but fewer and less severe bark lesions. The larvae seem to feed more on the leaves and less on the bark than when attacking camphor. Following the destruction of the terminal bud the lateral buds develop freely, resulting in a sort of witch's broom or "multiple bud" growth. The withered terminal shoots cling to the tree longer than do those of camphor and form retreats in which the thrips commonly hide. These dead twigs are the most likely places in which to search for the insects.

Thus far the larvae have been found on only the shore bay, *Tamala littoralis,* but trees of *Tamala barbonia* about Gainesville show typical thrip injury. The avocado belongs to the genus *Persea* to which genus the bays have been commonly referred. Upon the discovery that the latter were the native hosts of the thrips, some apprehension was felt lest the insects might be able to feed also on avocadoes and ultimately perhaps to invade the avocado orchards of the state. In the laboratory, however, they have refused to feed on young growth of the Mexican avocado.

The life history of the camphor thrips has not been worked out in detail. A single generation was raised in May 1913. The eggs hatched in eight or nine days and the larvae had become adults by the 24th day.

Contrary to our previous experience we have lately observed the insect to fly. The flight was, however, very short. That it does not commonly fly far is indicated by the fact that camphor trees less than a half mile from a center of infestation have remained free for years. A hedge near the writer's home at Gainesville is still uninfested, altho a colony of thrips has for six years existed within a half mile and for the past year within 900 feet. This hedge borders an unused alley where opportunities for transportation are few. Trees along the neighboring street where traffic is heavy have become infested.

J. R. WATSON (Ag. Exp. Sta.).